

district, but occurring in sparse numbers on the islands off the coast.

—JULIAN R. FORD, Fremantle.

A Cling-fish New for Western Australia.—Whitley (A list of the Fishes of Western Australia, *Fisheries Dept. Bull.* 2, 1948: 28) records three species of cling-fish (Family Gobiesocidae). A fourth species, *Parvicrepis parvipinnis* (Waite) 1906, is now to be added. A specimen was collected, clinging to Sargassum weed, at Point Peron on April 14, 1957, by Misses J. Arnold and K. Vollprecht.

The specimen measures 16 mm. total length and has the fin-ray formula, D.5; A.4; P.16; C.10. Coloration of the live fish was as follows: body colour a light olive-brown; numerous small ocelli over all the body except the abdomen, on the throat aggregated to form several light brown transverse lines; larger brown spots present along the dorsal mid-line; through the eye a horizontal, reddish-brown line. The fins unmarked except for rust-coloured margin on the caudal fin. Preservation in 5% formalin resulted in loss of live pigmentation, the colour fading to dull yellowish-brown.

In his description of the species (*Rec. Aust. Mus.*, 6 (3), 1906: 202), Waite placed it in the genus *Diplocrepis*. Under this generic name he recorded and figured the fish in the *Handbook of South Australian Fishes* (1923). Whitley (*Aust. Zool.*, 6, 1931: 325) considered the species not cogenetic with typical *Diplocrepis* (New Zealand) and erected for it a new genus, *Parvipinnis*.

Previously the species was known only from south-eastern Australia.

—N. E. MILWARD, Perth.

Occurrence of the Fork-tailed Swift in the South-West, 1956.—At Rottnest Island on January 29, 1956, P. S. Stone, W. C. Ford and I saw a loose flock of about 100 Fork-tailed Swifts (*Apus pacificus*) at 7.30 a.m. near West End, slowly moving towards the south-east at heights ranging from a few feet to about 100 feet above the ground. As this flock moved towards Kwinana, it was joined by another large flock moving in from the sea near Carnac Island. Several smaller flocks of Fork-tailed Swifts were observed in passage between 7.30 and 8.15 a.m. at West End, and towards midday, individuals were seen flying over the western part of Rottnest Island while they hawked insects. The original flock was also feeding. During this period, the weather was fine and extremely hot with fairly strong easterly winds in the morning. A northern low pressure system dominated the weather over most of the State.

Fork-tailed Swifts were later observed on several occasions at Hamilton Hill, three miles south-east of Fremantle. W. C. Ford and I observed a large compact flock of about 400, at 7.30 a.m. on February 2, working their way against a gentle south-easterly wind. A few minutes later, a second flock of about 2,000 swifts was seen circling at about 1,000 feet above the ground, their general movement also being towards the south-east. On the morning of February 5, W. C. Ford heard a flock calling but

was unable to locate their position. At 6 p.m. on March 4, when Hamilton Hill was experiencing the full force of an intense low pressure system situated off the lower west coast (*W.A. Nat.*, 5: 133), a widely dispersed flock of about 100 Fork-tailed Swifts was seen moving against a strong north-westerly wind, at heights ranging between a few feet to about 100 feet from the ground. A small flock of about 70 swifts, flying towards the south-east, was seen at 7.20 a.m. on March 24. The birds were in close formation and were calling continuously.

On March 18, 1956, at 7.30 p.m. near Bibra Lake, three swifts were seen flying towards the south. The weather was fine and no wind was in evidence.

—JULIAN R. FORD, Fremantle.

Note on a Parasitised Root Nodule.—This observation was made incidentally while examining native legumes for the presence of rhizobial (bacterial) nodules on their roots. It was made at Dinner Hill (west of Watheroo) on July 31, 1957, in sand plain scrub there occurring.

A root system of *Daviesia pectinata* Lindl. was exposed and found to be extensively nodulated with large coralloid nodules of *Rhizobium* sp. One such nodule was observed to be encircled by an haustorium (see figure), presumed that of the Christmas tree, *Nuytsia floribunda* Labill. (R. Br.), present in the locality and known to parasitise via haustoria (Herbert, D. A., *J. Proc. Roy. Soc. W.A.*, 5, 1920: 72-88). The maximum diameter of the haustorium was 11 mm.

This is an extreme of direct ecological interaction. Three plants (*D. pectinata*, *Rhizobium* sp., *N. floribunda*) are all in



Encirclement of one lobe of a root-nodule by a *Nuytsia* haustorium. The nodule was attached at its narrow end to a *Daviesia* root. The haustorium exhibits part of the strand by which it was connected to a *Nuytsia* root.